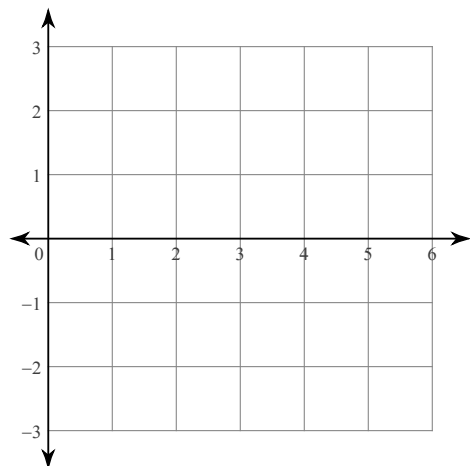


Quadratic review

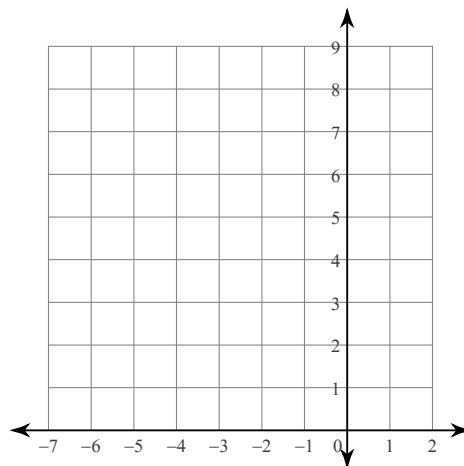
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Sketch the graph of each function. Clearly identify the vertex and at least 2 other points.

1) $y = -x^2 + 4x - 2$



2) $y = (x + 4)^2 + 4$

**Factor each completely.**

3) $x^2 - 10x$

4) $x^2 - 7x$

5) $7a^2 - 46a + 24$

6) $5p^2 - 51p + 10$

7) $-10k^2 - k + 3$

8) $9n^2 + 50n - 24$

Solve each equation.

9) $x^2 + 1 = 2$

10) $-10a^2 = -250$

11) $k^2 + 5k + 6 = 0$

12) $p^2 + 10p + 21 = 0$

13) $5x^2 + 7 = 0$

14) $-5n^2 - 4 = 0$

Find the discriminant of each quadratic equation then state the number and type of solutions.

15) $-2v^2 - 5v - 11 = -9$

16) $-10x^2 - 9x + 1 = -8$

Simplify.

17) $(-4 + 2i) - (-1 + 7i)$

18) $(8i) + 3 - (4 + 5i)$

19) $(-6 + 6i)(7 + 4i)$

20) $(-6 + 2i)^2$

21) $\frac{9i}{-1 - 9i}$

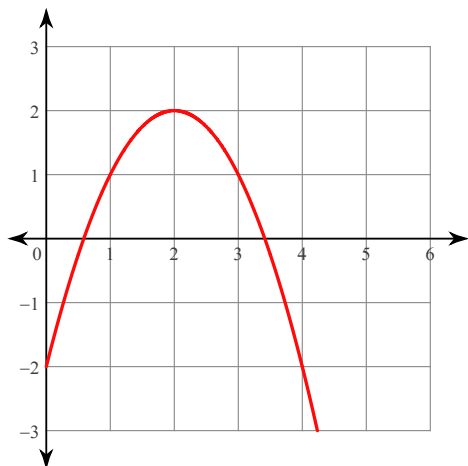
22) $\frac{4}{10 + 6i}$

Quadratic review

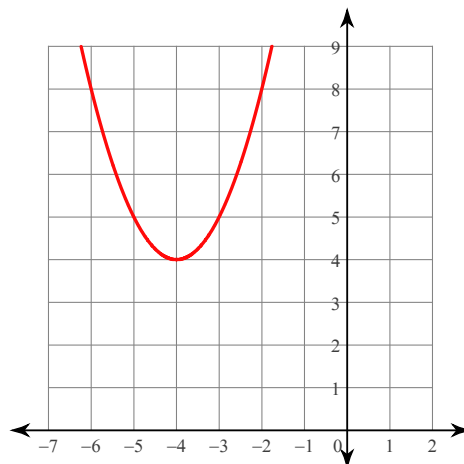
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1) $y = -x^2 + 4x - 2$



2) $y = (x + 4)^2 + 4$



Factor each completely.

3) $x^2 - 10x$

$x(x - 10)$

4) $x^2 - 7x$

$x(x - 7)$

5) $7a^2 - 46a + 24$

$(7a - 4)(a - 6)$

6) $5p^2 - 51p + 10$

$(5p - 1)(p - 10)$

7) $-10k^2 - k + 3$

$-(5k + 3)(2k - 1)$

8) $9n^2 + 50n - 24$

$(n + 6)(9n - 4)$

Solve each equation.

9) $x^2 + 1 = 2$

$\{1, -1\}$

10) $-10a^2 = -250$

$\{5, -5\}$

$$11) k^2 + 5k + 6 = 0$$

$$\{-2, -3\}$$

$$12) p^2 + 10p + 21 = 0$$

$$\{-7, -3\}$$

$$13) 5x^2 + 7 = 0$$

$$\left\{ \frac{i\sqrt{35}}{5}, -\frac{i\sqrt{35}}{5} \right\}$$

$$14) -5n^2 - 4 = 0$$

$$\left\{ -\frac{2i\sqrt{5}}{5}, \frac{2i\sqrt{5}}{5} \right\}$$

Find the discriminant of each quadratic equation then state the number and type of solutions.

$$15) -2v^2 - 5v - 11 = -9$$

9; two real solutions

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441; two real solutions

Simplify.

$$17) (-4 + 2i) - (-1 + 7i)$$

$$-3 - 5i$$

$$18) (8i) + 3 - (4 + 5i)$$

$$-1 + 3i$$

$$19) (-6 + 6i)(7 + 4i)$$

$$-66 + 18i$$

$$20) (-6 + 2i)^2$$

$$32 - 24i$$

$$21) \frac{9i}{-1 - 9i} - \frac{-9i - 81}{82}$$

$$22) \frac{4}{10 + 6i} - \frac{5 - 3i}{17}$$